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‘The Influence of Geography on the Development of early Rome’

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INTRODUCTION

Rome began life as a small settlement of farmers and shepherds on a series of hills overlooking the river Tiber. One reason why this settlement grew to become the capital of a vast empire can be attributed to its geography. Modern views point towards its commercial advantages, especially over its close neighbours and its setting within the wider geographical environment. This includes the location of the Via Salaria (Salt Road) linking Rome with its inland neighbours and giving it control of a very important early commodity. It was also close to the river for trade, and the Tiber Island was the lowest point at which the river could be safely crossed. All this facilitated trade with their Etruscan neighbours to the north and the Greek settlements to the south. There was also trade between the Greeks and Etruscans, and while travelling by sea was faster, it also posed risks such as piracy and weather whereas land transport was slow but safer. Anyone travelling by land from the Greek settlements to Etruria (or vice versa) who didn't want to go far inland would likely travel through Rome. Rome also enjoyed the fertile volcanic soil of its hinterland and ancient sources emphasised that the Romans were traditionally rustic farmers. Ancient discussions from the likes of Cicero and Livy tend to place a higher importance on the strategic location of the city, primarily militarily, but also culturally, for the successful growth of the city.

This investigation will focus primarily on geological and archaeological evidence. This material will be supplemented by literary evidence where that is possible. It is, however, clear that Roman writers possessed little genuine knowledge about the geographical and topographical realities of the earliest inhabitation of the site of Rome, as will be discussed further in chapter 1. For instance, in most accounts of Rome's origins, Romulus, Rome's mythical founder, was said to have founded his city on essentially uninhabited farmland. The investigation will explore the links between the local geography around the site of Rome, and discuss the impact this geography had on the early development of the site and later city. I will begin with an overview of work that has been carried out to date, including those by ancient Greek and Roman writers as well as modern archaeological and historical studies. This thesis will also include an explanation of the wider geography of the region, including the Italian peninsula and how factors such as climate, historic volcanic activity, and rainfall patterns influenced the geomorphological formation of key geographical features such as the River Tiber and the hills of Rome, and will consider how these features in turn influenced the development of the city. The geographical impact of the Tiber, along with the hills and valleys of Rome, will be the main focus of this work, which will also explore the ways in which the

geography has affected how, why, and where the Romans built bridges, roads, aqueducts, and other such works.

Modern works on the impact of geography on the development of early Rome are naturally more focussed on archaeological evidence, as well as geographical and geological data. Some of these works do still cite ancient sources to support their arguments, such as Aldrete's work on the flooding of the Tiber River.¹ While Aldrete's work is comprehensive, it does not constitute an all-encompassing study of the wider impact that geography has had on the development of early Rome. Ammerman is one of many scholars who have focussed on land use changes in the valleys of early Rome, and his archaeological field work on coring and his subsequent written works have been referenced by contemporaries. Numerous scholars have focussed on the hills and topography of Rome, Heiken's work focusses on the seven hills of Rome, while Mignone's centres on the Aventine Hill specifically, and De Rita, a geologist, has written on this aspect of the hills and the wider geological setting. However, none of these scholars has attempted to offer a comprehensive study on the wider geographical impacts of all the different aspects discussed and the interactions between the hills, valleys and rivers, and how these interactions affected the development of the city, and what the Romans did to both alleviate their geographical limitations and exploit the opportunities they presented.

The site on which Rome would be built was formed hundreds of thousands of years ago by tectonic uplift, volcanic activity, and fluvial erosion. Both the geographical history of the region and the place of Rome in the wider geographical context of the Italian peninsula will be the focus of chapter 2. Uplift occurred between over 2 million years ago until just over 1 million years ago, to raise the Italian peninsula above sea level, and the famous hills of Rome themselves, which were the focus of much of the early settlement, were formed by an early period of volcanic activity which began around 700,000 years ago. The hills were formed by a combination of tectonic uplift of hard ignimbrite rock which was covered by a layer of volcanic ash as a result of periods of volcanic activity. The softer ash and sedimentary rock were eroded by surface water runoff, as well as the Tiber River after it shifted course from a more northern route to the path it takes today. The volcanic nature of the soil in the hinterland inland of Rome facilitated subsistence farming and the growing of crops, and the central position along the Italian peninsula (coupled with its location in relation to important early trade routes as has been discussed) saw the city in a favourable location for population and economic growth.

¹ See Aldrete, 2007.

The hills on which Rome was built (which are commonly but mistakenly referred to as the seven hills of Rome) played a significant role in Rome's development, and will be the focus of chapter 3. Their position overlooking the Via Salaria and the Tiber River and island allowed for control of parts of these important trade routes. The Capitoline and Palatine hills, in particular, served as military strongholds from an early time, as may possibly be demonstrated by their prominence in foundation myths and early histories (although this may also be a reflection of what later Roman writers believed about earlier times). The Capitoline hill was a significant centre for religious institutions (it was here that the huge, archaic temple to Jupiter Optimus Maximus was built), and was also the citadel overlooking the city. The Palatine was always firmly established in the Romans' mind as the original site of Rome, as it was on this hill that Romulus was believed to have founded the city. In later times, it was desirable real estate. The eastern slopes were less defensible than those of the Palatine and Capitoline, and the circus valley separated the hill from the rest of the city, and would have physically cut the Aventine off from the city during times of flooding (the Romans saw this hill as outside the city and Pomerium until the time of Claudius), rendering the valley a swampy bog filled with malaria and other such diseases. Although it has long been viewed as something of a plebeian district, Mignone has recently argued that the Aventine was closer in social makeup to the rest of the city, and a more detailed investigation into the social architecture of the area is needed to place this hill into the greater context of the social makeup of Rome.

The valleys of Rome also affected the development of the city, albeit in a different way, and these will be the focus of chapter 4. The valleys were low lying, sometimes boggy areas which were frequently inundated both by flooding from the Tiber as well as localised flooding as a result of runoff from the surrounding hills. These valleys were heavily modified over the centuries in order for them to be permanently habitable by both the raising of the valley floors with the use of debris fill, and the construction of the Cloaca Maxima which drained excess water from the city centre. Some scholars argue they were inhabited from as early as the sixth century BCE, however I find this highly unlikely due to the environmental conditions which would have been present, as will be discussed. A significant part of modern scholarship has focussed on the Forum Valley and this will also be the main focus for this work, as it is from here that much of the best evidence has come.

The Tiber River was also a significant factor in the development of the city. The river itself was an important trade route as has been discussed, and allowed navigable access to both the coast (and therefore foreign ports) and the interior hinterland. However, the river also posed a permanent threat to the people of Rome, with flooding regularly inundating low-lying areas of

the city, rendering them uninhabitable. There are accounts from ancient sources as to the damage flooding caused, including the destruction of buildings and there are some references to loss of life. However further analysis requires environmental data to allow for a fuller picture as well as an understanding of the topography and drainage patterns of the valleys in Rome and how these have changed over time (even during the Archaic period), as will be discussed in chapter 5 of this work.

Chapter 6 will focus on infrastructure in the early city, with the exception of the drainage channels such as the Cloaca Maxima which will be covered in chapter 4. This includes early bridges, roads, aqueducts, and walls, and focusses on how they were impacted by the local geography of the region and in turn, the impact they had on the geography itself. Bridges built over the Tiber had a spatial impact on the city, opening up real estate on the right bank (western side) of the river for settlement, and they also allowed for easier trade access to link with the roads north to Etruria and south to the Greek colonies. These bridges were first made from timber, however the nature of the river environment facilitated a shift towards stone piers as more reliable and stable during flooding events. While early aqueducts were sufficient to link springs within the city to end-water users, by the 4th century BCE the population of Rome required a water supply sourced from outside the city. This presented challenges due to the nature of the geography not being uniform. As a result the majority of the length of an aqueduct was constructed underground via tunnels. Only a small proportion was built on arcades, although these short stretches showcased the greatest in Roman architecture, with arches triumphantly delivering water to the people. The Romans also constructed cisterns at the end of these aqueducts to alleviate supply issues caused by anything from structural issues with infrastructure, to drought, or to water supply being cut off during an attack on the city.

This thesis will cover the different geographical elements which have been discussed as they interact not only with the Roman people but also each other. As this thesis is artificially separating complex geographical processes into individual chapters, there will invariably be a degree of repetition between the chapters. The hills of Rome cannot be discussed without reference to the geography of the valleys or the Tiber, as one directly affects the others, and vice versa. Most modern scholars have focussed on a particular element such as the valleys or hills, or have focussed their work on geology, topography, archaeology, or the Roman people themselves. However none of these scholars has attempted a broad ranging study on how all these elements interacted and how this affected the development of the city of Rome, or the extent to which the Romans themselves modified their environment in response to this. This thesis will draw on evidence from across multiple fields such as history, archaeology,

geography, and geology to gain a fuller picture of the geographical environment of early Rome. It will also be supplemented with ancient sources (where possible) to understand how interactions with the geographical environment affected the early Romans and the development of the city. It is my opinion that the local and wider geographical environment played a predominant role in how the city was developed, from spatial settlement patterns and the need to modify their environment, from the building of bridges and the physical modification of the hillsides to satisfy the growing population, to the raising of valley floors and the construction of drainage canals to alleviate damage caused by flooding.